

SEQUENCE LISTING

<110> Suntory Limited

<120> Novel Serine Protease

<130> STY-F867/PCT

<140>

<141>

<150>

<151> 1997-07-24

<160> 6

<210> 1

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 1

gtgctcacng cngcbaytg

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 2

agcggncnc cdgارتcvcc

<210> 3

<211> 2614

<212> DNA

<213> Mouse

<220>

<223>

<400> 3

cgagggtggg	gtggaggatcg	gactccgggc	tacagagctc	ctggcgctca	tgcgtctgg	60
ctccagctt	tgttcgtggg	ggctgaccct	ttgggtcccc	gtgtgatccc	ccagctgccc	120
cgggggtgg	gacagcaggg	cgccggcgcg	agcgtggag	ggggtcttag	gactctgccc	180
gccccccccc	gccccctccg	cggggaccccg	gagcccaagca	tggaccacac	tccggcgccc	240
agcc	atg	gcg	ctc	gcc	cgc	289

M t Ala Leu Ala Arg Cys Val Leu Ala Val Ile Leu Gly Ala Leu.
1 5 10 15
tct gta gtg gcc cgc get gat ccg gtc tcc cgc tot ccc ctt cac cgc 337
Ser Val Val Ala Arg Ala Asp Pro Val Ser Arg Ser Pro Leu His Arg
20 25 30
ccg cat ccg too cca ccg cgt tcc caa cac gcg cac tac ctt ccc agc 385
Pro His Pro Ser Pro Pro Arg Ser Gln His Ala His Tyr Leu Pro Ser
35 40 45
tcg cgg cgg cca ccc agg acc ccg cgc ttc ccg ctc ccg ctg cgg atc 433
Ser Arg Arg Pro Pro Arg Thr Pro Arg Phe Pro Leu Pro Leu Arg Ile
50 55 60
ccc get gcc cag cgc ccg cag gtc ctc agc acc ggg cac acg ccc ccg 481
Pro Ala Ala Gln Arg Pro Gln Val Leu Ser Thr Gly His Thr Pro Pro
65 70 75
acg att cca cgc cgc tgc ggg gca gga gag tcg tgg ggc aat gcc acc 529
Thr Ile Pro Arg Arg Cys Gly Ala Gly Glu Ser Trp Gly Asn Ala Thr
80 85 90 95
aac ctc ggc gtc ccg tgt cta cac tgg gac gag gtg ccg ccc ttc ctg 577
Asn Leu Gly Val Pro Cys Leu His Trp Asp Glu Val Pro Pro Phe Leu
100 105 110
gag cgg tcg ccc ccg gcc agt tgg gct gag ctg cga ggg cag ccg cac 625
Glu Arg Ser Pro Pro Ala Ser Trp Ala Glu Leu Arg Gly Gln Pro His
115 120 125
aac ttc tgc cgg agc ccg gat ggc tcg ggc aga cct tgg tgc ttc tat 673
Asn Phe Cys Arg Ser Pro Asp Gly Ser Gly Arg Pro Trp Cys Phe Tyr
130 135 140
cgg aat gcc cag ggc aaa gta gac tgg ggc tac tgc gat tgt ggt caa 721
Arg Asn Ala Gln Gly Lys Val Asp Trp Gly Tyr Cys Asp Cys Gly Gln
145 150 155
ggc ccc gcg ttg ccc gtc att cgc ctt gtt ggt ggg aac agt ggg cat 769
Gly Pro Ala Leu Pro Val Ile Arg Leu Val Gly Gly Asn Ser Gly His
160 165 170 175
gaa ggt cga gtg gag ctg tac cac gct ggc cag tgg ggg acc atc tgt 817
Glu Gly Arg Val Glu Leu Tyr His Ala Gly Gln Trp Gly Thr Ile Cys
180 185 190
gac gac caa tgg gac aat gca gac gca gac gtc atc tgt agg cag ctg 865
Asp Asp Gln Trp Asp Asn Ala Asp Ala Asp Val Ile Cys Arg Gln Leu
195 200 205

ggg ctc agt ggc att gcc aaa gca tgg cat cag gca cat ttt ggg gaa . 913
Gly Leu Ser Gly Ile Ala Lys Ala Trp His Gln Ala His Phe Gly Glu
210 215 220

gga tct ggc cca ata ttg ttg gat gaa gta .cgc tgc acc gga aac gag 961
Gly Ser Gly Pro Ile Leu Leu Asp Glu Val Arg Cys Thr Gly Asn Glu
225 230 235

ctg tca att gag caa tgt cca aag agt tcc tgg ggc gaa cat aac tgt 1009
Leu Ser Ile Glu Gln Cys Pro Lys Ser Ser Trp Gly Glu His Asn Cys
240 245 250 255

ggc cat aaa gaa gat gct gga gtg tct tgt gtt cct cta aca gat ggt 1057
Gly His Lys Glu Asp Ala Gly Val Ser Cys Val Pro Leu Thr Asp Gly
260 265 270

gtc atc aga ctg gca gga gga aaa agt acc cat gaa ggt cgc ctg gag 1105
Val Ile Arg Leu Ala Gly Gly Lys Ser Thr His Glu Gly Arg Leu Glu
275 280 285

gtc tac tac aag ggg cag tgg ggg aca gtc tgt gat gat .ggc tgg act 1153
Val Tyr Tyr Lys Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Thr
290 295 300

gag atg aac aca tac gtg gct tgt cga ctg ctg gga ttt aaa tac ggc 1201
Glu Met Asn Thr Tyr Val Ala Cys Arg Leu Leu Gly Phe Lys Tyr Gly
305 310 315

aaa cag tcc tct gtg aac cat ttt gat ggc agc aac agg ccc ata tgg 1249
Lys Gln Ser Ser Val Asn His Phe Asp Gly Ser Asn Arg Pro Ile Trp
320 325 330 335

ctg gat gac gtc agc tgc tca gga aaa gaa gtc agc ttc att cag tgt 1297
Leu Asp Asp Val Ser Cys Ser Gly Lys Glu Val Ser Phe Ile Gln Cys
340 345 350

tcc agg aga cag tgg gga agg cat gac tgc agc cat aga gaa gat gtg 1345
Ser Arg Arg Gln Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val
355 360 365

gga ctc acc tgc tat cct gac agc gat gga cat agg ctt tct cca ggt 1393
Gly Leu Thr Cys Tyr Pro Asp Ser Asp Gly His Arg Leu Ser Pro Gly
370 375 380

ttt ccc atc aga cta gtg gat gga gag aat aag aag gaa gga cga gtg 1441
Phe Pro Ile Arg Leu Val Asp Gly Glu Asn Lys Lys Glu Gly Arg Val
385 390 395

gag gtt ttt gtc a t ggc caa tgg gga aca atc tgc gat gac gga tgg . 1489
Glu Val Phe Val Asn Gly Gln Trp Gly Thr Ile Cys Asp Asp Gly Trp
400 405 410 415
acc gat aag cat gca gct gtg atc tgc cgg cag ctt ggc tat aag ggt 1537
Thr Asp Lys His Ala Ala Val Ile Cys Arg Gln Leu Gly Tyr Lys Gly
420 425 430
cct gcc aga gca agg act atg gct tat ttt ggg gaa gga aaa ggc ccc 1585
Pro Ala Arg Ala Arg Thr Met Ala Tyr Phe Gly Glu Gly Lys Gly Pro
435 440 445
atc cac atg gat aat gtg aag tgc aca gga aat gag aag gcc ctg gct 1633
Ile His Met Asp Asn Val Lys Cys Thr Gly Asn Glu Lys Ala Leu Ala
450 455 460
gac tgt gtc aaa caa gac att gga agg cac aac tgc cgc cac agt gag 1681
Asp Cys Val Lys Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu
465 470 475
gat gca gga gtc atc tgt gac tat tta gag aag aaa gca tca agt agt 1729
Asp Ala Gly Val Ile Cys Asp Tyr Leu Glu Lys Lys Ala Ser Ser Ser
480 485 490 495
ggt aat aaa gag atg ctc tca tct gga tgt gga ctg agg tta ctg cac 1777
Gly Asn Lys Glu Met Leu Ser Ser Gly Cys Gly Leu Arg Leu Leu His
500 505 510
cgt cgg cag aaa cgg atc att ggt ggg aac aat tct tta agg ggt gcc 1825
Arg Arg Gln Lys Arg Ile Ile Gly Gly Asn Asn Ser Leu Arg Gly Ala
515 520 525
tgg cct tgg cag gct tcc ctc agg ctg agg tcg gcc cat gga gac ggc 1873
Trp Pro Trp Gln Ala Ser Leu Arg Leu Arg Ser Ala His Gly Asp Gly
530 535 540
agg ctg ctt tgt gga gct acc ctt ctg agt agc tgc tgg gtc ctg aca 1921
Arg Leu Leu Cys Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr
545 550 555
gct gca cac tgc ttc aaa agg tac gga aac aac tec agg agg agc tat gca 1969
Ala Ala His Cys Phe Lys Arg Tyr Gly Asn Asn Ser Arg Ser Tyr Ala
560 565 570 575
gtt cga gtt ggg gat tat cat act ctg gta cca gag gag ttt gaa caa 2017
Val Arg Val Gly Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Gln
580 585 590

gaa ata ggg gtt caa cag att gtg att cac agg aac tac agg cca gac . 2065
Glu Ile Gly Val Gln Gln Ile Val Ile His Arg Asn Tyr Arg Pro Asp
595 600 605
aga agc gac tat gac att gcc ctg gtt aga ttg caa gga cca ggg gag 2113
Arg Ser Asp Tyr Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Gly Glu
610 615 620
caa tgt gcc aga cta agc acc cac gtt ttg cca gcc tgt tta cct cta 2161
Gln Cys Ala Arg Leu Ser Thr His Val Leu Pro Ala Cys Leu Pro Leu
625 630 635
tgg aga gag agg cca cag aaa aca gcc tcc aac tgt cac ata aca gga 2209
Trp Arg Glu Arg Pro Gln Lys Thr Ala Ser Asn Cys His Ile Thr Gly
640 645 650 655
tgg gga gac aca ggt cgt gcc tac tca aga act cta caa caa gct gct 2257
Trp Gly Asp Thr Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala
660 665 670
gtg cct ctg tta ccc aag agg ttt tgt aaa gag agg tac aag gga cta 2305
Val Pro Leu Leu Pro Lys Arg Phe Cys Lys Glu Arg Tyr Lys Gly Leu
675 680 685
ttt act ggg aga atg ctc tgt get ggg aac ctc caa gaa gac aac cgt 2353
Phe Thr Gly Arg Met Leu Cys Ala Gly Asn Leu Gln Glu Asp Asn Arg
690 695 700
gtg gac agc tgc cag gga gac agt gga gga cca ctc atg tgt gaa aag 2401
Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Lys
705 710 715
cct gat gag tcc tgg gtt gtg tat ggg gtg act tcc tgg ggg tat gga 2449
Pro Asp Glu Ser Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly
720 725 730 735
tgt gga gtc aaa gac act cct gga gtt tat acc aga gtc ccc gcc ttt 2497
Cys Gly Val Lys Asp Thr Pro Gly Val Tyr Thr Arg Val Pro Ala Phe
740 745 750
gta cct tgg ata aaa agt gtc acc agt ctg taacttatgg aaagctcaag 2547
Val Pro Trp Ile Lys Ser Val Thr Ser Leu
755 760
aaaaatagtaa aacagtaacc attcagtctt catacttggc accatgccag aaaaaaaaaa 2607
aaaaaaaa
<210> 4
<211> 761

<212> PRT

<213> Mouse

<220>

<223>

<400> 4

Met Ala Leu Ala Arg Cys Val Leu Ala Val Ile Leu Gly Ala Leu Ser
1 5 10 15
Val Val Ala Arg Ala Asp Pro Val Ser Arg Ser Pro Leu His Arg Pro
20 25 30
His Pro Ser Pro Pro Arg Ser Gln His Ala His Tyr Leu Pro Ser Ser
35 40 45
Arg Arg Pro Pro Arg Thr Pro Arg Phe Pro Leu Pro Leu Arg Ile Pro
50 55 60
Ala Ala Gln Arg Pro Gln Val Leu Ser Thr Gly His Thr Pro Pro Thr
65 70 75 80
Ile Pro Arg Arg Cys Gly Ala Gly Glu Ser Trp Gly Asn Ala Thr Asn
85 90 95
Leu Gly Val Pro Cys Leu His Trp Asp Glu Val Pro Pro Phe Leu Glu
100 105 110
Arg Ser Pro Pro Ala Ser Trp Ala Glu Leu Arg Gly Gln Pro His Asn
115 120 125
Phe Cys Arg Ser Pro Asp Gly Ser Gly Arg Pro Trp Cys Phe Tyr Arg
130 135 140
Asn Ala Gln Gly Lys Val Asp Trp Gly Tyr Cys Asp Cys Gly Gln Gly
145 150 155 160
Pro Ala Leu Pro Val Ile Arg Leu Val Gly Gly Asn Ser Gly His Glu
165 170 175
Gly Arg Val Glu Leu Tyr His Ala Gly Gln Trp Gly Thr Ile Cys Asp
180 185 190
Asp Gln Trp Asp Asn Ala Asp Ala Asp Val Ile Cys Arg Gln Leu Gly
195 200 205
Leu Ser Gly Ile Ala Lys Ala Trp His Gln Ala His Phe Gly Glu Gly
210 215 220
Ser Gly Pro Ile Leu Leu Asp Glu Val Arg Cys Thr Gly Asn Glu Leu
225 230 235 240
Ser Ile Glu Gln Cys Pro Lys Ser Ser Trp Gly Glu His Asn Cys Gly
245 250 255

His Lys Glu Asp Ala Gly Val Ser Cys Val Pro Leu Thr Asp Gly Val
260 265 270
Ile Arg Leu Ala Gly Gly Lys Ser Thr His Glu Gly Arg Leu Glu Val
275 280 285
Tyr Tyr Lys Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Thr Glu
290 295 300
Met Asn Thr Tyr Val Ala Cys Arg Leu Leu Gly Phe Lys Tyr Gly Lys
305 310 315 320
Gln Ser Ser Val Asn His Phe Asp Gly Ser Asn Arg Pro Ile Trp Leu
325 330 335
Asp Asp Val Ser Cys Ser Gly Lys Glu Val Ser Phe Ile Gln Cys Ser
340 345 350
Arg Arg Gln Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val Gly
355 360 365
Leu Thr Cys Tyr Pro Asp Ser Asp Gly His Arg Leu Ser Pro Gly Phe
370 375 380
Pro Ile Arg Leu Val Asp Gly Glu Asn Lys Lys Glu Gly Arg Val Glu
385 390 395 400
Val Phe Val Asn Gly Gln Trp Gly Thr Ile Cys Asp Asp Gly Trp Thr
405 410 415
Asp Lys His Ala Ala Val Ile Cys Arg Gln Leu Gly Tyr Lys Gly Pro
420 425 430
Ala Arg Ala Arg Thr Met Ala Tyr Phe Gly Glu Gly Lys Gly Pro Ile
435 440 445
His Met Asp Asn Val Lys Cys Thr Gly Asn Glu Lys Ala Leu Ala Asp
450 455 460
Cys Val Lys Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu Asp
465 470 475 480
Ala Gly Val Ile Cys Asp Tyr Leu Glu Lys Lys Ala Ser Ser Ser Gly
485 490 495
Asn Lys Glu Met Leu Ser Ser Gly Cys Gly Leu Arg Leu Leu His Arg
500 505 510
Arg Gln Lys Arg Ile Ile Gly Asn Asn Ser Leu Arg Gly Ala Trp
515 520 525
Pro Trp Gln Ala Ser Leu Arg Leu Arg Ser Ala His Gly Asp Gly Arg
530 535 540
Leu Leu Cys Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr Ala
545 550 555 560

Ala His Cys Phe Lys Arg Tyr Gly Asn Asn Ser Arg Ser Tyr Ala Val
565 570 575
Arg Val Gly Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Gln Glu
580 585 590
Ile Gly Val Gln Gln Ile Val Ile His Arg Asn Tyr Arg Pro Asp Arg
595 600 605
Ser Asp Tyr Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Gly Glu Gln
610 615 620
Cys Ala Arg Leu Ser Thr His Val Leu Pro Ala Cys Leu Pro Leu Trp
625 630 635 640
Arg Glu Arg Pro Gln Lys Thr Ala Ser Asn Cys His Ile Thr Gly Trp
645 650 655
Gly Asp Thr Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala Val
660 665 670
Pro Leu Leu Pro Lys Arg Phe Cys Lys Glu Arg Tyr Lys Gly Leu Phe
675 680 685
Thr Gly Arg Met Leu Cys Ala Gly Asn Leu Gln Glu Asp Asn Arg Val
690 695 700
Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Lys Pro
705 710 715 720
Asp Glu Ser Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly Cys
725 730 735
Gly Val Lys Asp Thr Pro Gly Val Tyr Thr Arg Val Pro Ala Phe Val
740 745 750
Pro Trp Ile Lys Ser Val Thr Ser Leu
755 760
<210> 5
<211> 2562
<212> DNA
<213> Human
<220>
<223>
<400> 5
ccg acg acg cgt ccg ccg cct ctc ccg cgc ttc ccg cgc ccc ccg 48
Pro Thr Thr Arg Pro Pro Pro Leu Pro Arg Phe Pro Arg Pro Pro
1 5 10 15

- 9/16 -

cg^g gc^g ctc cct gcc c^ag cgc c^cg c^ac g^cc c^tc c^ag g^gg c^ac a^cg . 96
Arg Ala Leu Pro Al Gln Arg Pro His Ala Leu Gln Ala Gly His Thr
20 25 30
ccc cg^g cc^g cac ccc tgg gg^c tgc ccc g^cc g^gg gag c^ca tgg gtc agc 144
Pro Arg Pro His Pro Trp Gly Cys Pro Ala Gly Glu Pro Trp Val Ser
35 40 45
gtg ac^g gac ttc gg^c g^cc c^g t^gt ctg c^gg tgg g^gg gag gtg c^ca ccc 192
Val Thr Asp Phe Gly Ala Pro Cys Leu Arg Trp Ala Glu Val Pro Pro
50 55 60
ttc ctg gag cg^g tc^g ccc c^ca g^cg agc tgg g^ct c^ag ctg c^ga g^ga c^ag 240
Phe Leu Glu Arg Ser Pro Pro Ala Ser Trp Ala Gln Leu Arg Gly Gln
65 70 75 80
cg^c c^ac a^ac t^tt t^gt cg^g agc ccc g^ac gg^c g^cg gg^c aga ccc tgg t^gt 288
Arg His Asn Phe Cys Arg Ser Pro Asp Gly Ala Gly Arg Pro Trp Cys
85 90 95
ttc tac gga gac g^cc c^gt gg^c a^ag gtg gac tgg gg^c tac t^gc gac t^gc 336
Phe Tyr Gly Asp Ala Arg Gly Lys Val Asp Trp Gly Tyr Cys Asp Cys
100 105 110
ag^a c^ac gga tca gta c^ga ctt c^gt gg^c g^cc aaa a^at gag t^tt gaa gg^c 384
Arg His Gly Ser Val Arg Leu Arg Gly Lys Asn Glu Phe Glu Gly
115 120 125
aca gtg gaa gta tat gca agt gga gtt tgg gg^c act g^ct t^gt agc agc 432
Thr Val Glu Val Tyr Ala Ser Gly Val Trp Gly Thr Val Cys Ser Ser
130 135 140
cac tgg gat gat tct gat gca tca g^ct att t^gt cac c^ag ctg c^gag ctg 480
His Trp Asp Asp Ser Asp Ala Ser Val Ile Cys His Gln Leu Gln Leu
145 150 155 160
gg^a gga aaa gga ata gca aaa caa acc cc^g ttt t^ct gga ctg gg^c ctt 528
Gly Gly Lys Gly Ile Ala Lys Gln Thr Pro Phe Ser Gly Leu Gly Leu
165 170 175
att ccc att tat tgg agc aat g^ct c^gt t^gc c^ag gga gat gaa gaa aat 576
Ile Pro Ile Tyr Trp Ser Asn Val Arg Cys Arg Gly Asp Glu Glu Asn
180 185 190
ata ctg ctt t^gt gaa aaa gac atc tgg c^ag g^gt g^gg g^tg t^gt cct c^ag 624
Ile Leu Leu Cys Glu Lys Asp Ile Trp Gln Gly Gly Val Cys Pro Gln
195 200 205

- 10/16 -

aag atg gca gct gct gtc acg tgt agc ttt tcc cat ggc cca acg ttc .672
Lys Met Ala Ala Ala Val Thr Cys Ser Phe Ser His Gly Pro Thr Phe
210 215 220
ccc atc att cgc ctt gct gga ggc agc agt gtg cat gaa ggc egg gtg 720
Pro Ile Ile Arg Leu Ala Gly Gly Ser Ser Val His Glu Gly Arg Val
225 230 235 240
gag ctc tac cat gct ggc cag tgg gga acc gtt tgt gat gac caa tgg 768
Glu Leu Tyr His Ala Gly Gln Trp Gly Thr Val Cys Asp Asp Gln Trp
245 250 255
gat gat gcc gat gca gaa gtg atc tgc agg cag ctg ggc ctc agt ggc 816
Asp Asp Ala Asp Ala Glu Val Ile Cys Arg Gln Leu Gly Leu Ser Gly
260 265 270
att gcc aaa gca tgg cat cag gca tat ttt ggg gaa ggg tct ggc cca 864
Ile Ala Lys Ala Trp His Gln Ala Tyr Phe Gly Glu Gly Ser Gly Pro
275 280 285
gtt atg ttg gat gaa gta cgc tgc act ggg aat gag ctt tca att gag 912
Val Met Leu Asp Glu Val Arg Cys Thr Gly Asn Glu Leu Ser Ile Glu
290 295 300
cag tgt cca aag agc tcc tgg gga gag cat aac tgt ggc cat aaa gaa 960
Gln Cys Pro Lys Ser Ser Trp Gly Glu His Asn Cys Gly His Lys Glu
305 310 315 320
gat gct gga gtg tcc tgt acc cct cta aca gat ggg gtc atc aga ctt 1008
Asp Ala Gly Val Ser Cys Thr Pro Leu Thr Asp Gly Val Ile Arg Leu
325 330 335
gca ggt ggg aaa ggc agc cat gag ggt cgc ttg gag gta tat tac aga 1056
Ala Gly Gly Lys Gly Ser His Glu Gly Arg Leu Glu Val Tyr Tyr Arg
340 345 350
ggc cag tgg gga act gtc tgt gat gat ggc tgg act gag ctg aat aca 1104
Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Thr Glu Leu Asn Thr
355 360 365
tac gtg gtt tgt cga cag ttg gga ttt aaa tat ggt aaa caa goa tct 1152
Tyr Val Val Cys Arg Gln Leu Gly Phe Lys Tyr Gly Lys Gln Ala Ser
370 375 380
gcc aac cat ttt gaa gaa agc aca ggg ccc ata tgg ttg gat gac gtc 1200
Ala Asn His Phe Glu Glu Ser Thr Gly Pro Ile Trp Leu Asp Asp Val
385 390 395 400

agc tgc tca gga aag gaa acc aga ttt ctt cag tgt tcc agg cga cag 1248
Ser Cys Ser Gly Lys Glu Thr Arg Phe Leu Gln Cys Ser Arg Arg Gln
405 410 415

tgg gga agg cat gac tgc agc cac cgc gaa gat gtt agc att gcc tgc 1296
Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val Ser Ile Ala Cys
420 425 430

tac cct ggc ggc gag gga cac agg ctc tat ctg ggt ttt cct gtc aga 1344
Tyr Pro Gly Gly Glu Gly His Arg Leu Ser Leu Gly Phe Pro Val Arg
435 440 445

ctg atg gat gga gaa aat aag aaa gaa gga cga gtg gag gtt ttt atc 1392
Leu Met Asp Gly Glu Asn Lys Lys Glu Gly Arg Val Glu Val Phe Ile
450 455 460

aat ggc cag tgg gga aca atc tgt gat gat gga tgg act gat aag gat 1440
Asn Gly Gln Trp Gly Thr Ile Cys Asp Asp Gly Trp Thr Asp Lys Asp
465 470 475 480

gca gct gtg atc tgt cgt cag ctt ggc tac aag ggt cct gcc aga gca 1488
Ala Ala Val Ile Cys Arg Gln Leu Gly Tyr Lys Gly Pro Ala Arg Ala
485 490 495

aga acc atg gct tac ttt gga gaa gga aaa gga ccc atc cat gtg gat 1536
Arg Thr Met Ala Tyr Phe Gly Glu Gly Lys Gly Pro Ile His Val Asp
500 505 510

aat gtg aag tgc aca gga aat gag agg tcc ttg gct gac tgt atc aag 1584
Asn Val Lys Cys Thr Gly Asn Glu Arg Ser Leu Ala Asp Cys Ile Lys
515 520 525

caa gat att gga aga cac aac tgc cgc cac agt gaa gat gca gga gtt 1632
Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu Asp Ala Gly Val
530 535 540

att tgt gat tat ttt ggc aag aag gcc tca ggt aac agt aat aaa gag 1680
Ile Cys Asp Tyr Phe Gly Lys Lys Ala Ser Gly Asn Ser Asn Lys Glu
545 550 555 560

tcc ctc tca tct gtt tgt ggc ttg aga tta ctg cac cgt cgg cag aag 1728
Ser Leu Ser Ser Val Cys Gly Leu Arg Leu Leu His Arg Arg Gln Lys
565 570 575

cgg atc att ggt ggg aaa aat tct tta agg ggt ggt tgg cct tgg cag 1776
Arg Ile Ile Gly Gly Lys Asn Ser Leu Arg Gly Gly Trp Pro Trp Gln
580 585 590

gtt tcc ctc cgg ctg aag tca tcc cat gga gat ggc agg ctc ctc tgc 1824
Val Ser Leu Arg Leu Lys Ser Ser His Gly Asp Gly Arg Leu Leu Cys
595 600 605
ggg gct acg ctc ctg agt agc tgc tgg gtc ctc aca gca gca cac tgt 1872
Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr Ala Ala His Cys
610 615 620
ttc aag agg tat ggc aac agc act agg agc tat gct gtt agg gtt gga 1920
Phe Lys Arg Tyr Gly Asn Ser Thr Arg Ser Tyr Ala Val Arg Val Gly
625 630 635 640
gat tat cat act ctg gta cca gag gag ttt gag gaa gaa att gga gtt 1968
Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Glu Ile Gly Val
645 650 655
caa cag att gtg att cat cgg gag tat cga ccc gac cgc agt gat tat 2016
Gln Gln Ile Val Ile His Arg Glu Tyr Arg Pro Asp Arg Ser Asp Tyr
660 665 670
gac ata gcc ctg gtt aga tta caa gga cca gaa gag caa tgt gcc aga 2064
Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Glu Glu Gln Cys Ala Arg
675 680 685
ttc agc agc cat gtt ttg cca gcc tgt tta cca ctc tgg aga gag agg 2112
Phe Ser Ser His Val Leu Pro Ala Cys Leu Pro Trp Arg Glu Arg
690 695 700
cca cag aaa aca gca tcc aac tgt tac ata aca gga tgg ggt gac aca 2160
Pro Gln Lys Thr Ala Ser Asn Cys Tyr Ile Thr Gly Trp Gly Asp Thr
705 710 715 720
gga cga gcc tat tca aga aca cta caa gca gcc att ccc tta ctt 2208
Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala Ile Pro Leu Leu
725 730 735
cct aaa agg ttt tgt gaa gaa cgt tat aag ggt cgg ttt aca ggg aga 2256
Pro Lys Arg Phe Cys Glu Glu Arg Tyr Lys Gly Arg Phe Thr Gly Arg
740 745 750
atg ctt tgt gct gga aac ctc cat gaa cac aaa cgc gtg gac agc tgc 2304
Met Leu Cys Ala Gly Asn Leu His Glu His Lys Arg Val Asp Ser Cys
755 760 765
cag gga gac agc gga gga cca ctc atg tgt gaa cgg ccc gga gag agc 2352
Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Arg Pro Gly Glu Ser
770 775 780

tgg gtg gtg tat ggg gtg acc tcc tgg ggg tat ggc tgt gga gtc aag 2400
Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly Cys Gly Val Lys
785 790 795 800
gat tct cct ggt gtt tat acc aaa gtc tca gcc ttt gta cct tgg ata 2448
Asp Ser Pro Gly Val Tyr Thr Lys Val Ser Ala Phe Val Pro Trp Ile
805 810 815
aaa agt gtc acc aaa ctg taattcttca tggaaacttc aaagcagcat 2496
Lys Ser Val Thr Lys Leu
820
ttaaacaast ggaaaaacttt gaaccccccac tattagcact cagcagagat gacaacaaac 2556
ggcaag 2562
<210> 6
<211> 822
<212> PRT
<213> Human
<220>
<223>
<400> 6
Pro Thr Thr Arg Pro Pro Pro Pro Leu Pro Arg Phe Pro Arg Pro Pro
1 5 10 15
Arg Ala Leu Pro Ala Gln Arg Pro His Ala Leu Gln Ala Gly His Thr
20 25 30
Pro Arg Pro His Pro Trp Gly Cys Pro Ala Gly Glu Pro Trp Val Ser
35 40 45
Val Thr Asp Phe Gly Ala Pro Cys Leu Arg Trp Ala Glu Val Pro Pro
50 55 60
Phe Leu Glu Arg Ser Pro Pro Ala Ser Trp Ala Gln Leu Arg Gly Gln
65 70 75 80
Arg His Asn Phe Cys Arg Ser Pro Asp Gly Ala Gly Arg Pro Trp Cys
85 90 95
Phe Tyr Gly Asp Ala Arg Gly Lys Val Asp Trp Gly Tyr Cys Asp Cys
100 105 110
Arg His Gly Ser Val Arg Leu Arg Gly Gly Lys Asn Glu Phe Glu Gly
115 120 125
Thr Val Glu Val Tyr Ala Ser Gly Val Trp Gly Thr Val Cys Ser Ser
130 135 140

His Trp Asp Asp Ser Asp Ala S r Val Ile Cys His Gln Leu Gln Leu
145 150 155 160
Gly Gly Lys Gly Ile Ala Lys Gln Thr Pro Phe Ser Gly Leu Gly Leu
165 170 175
Ile Pro Ile Tyr Trp Ser Asn Val Arg Cys Arg Gly Asp Glu Glu Asn
180 185 190
Ile Leu Leu Cys Glu Lys Asp Ile Trp Gln Gly Gly Val Cys Pro Gln
195 200 205
Lys Met Ala Ala Ala Val Thr Cys Ser Phe Ser His Gly Pro Thr Phe
210 215 220
Pro Ile Ile Arg Leu Ala Gly Gly Ser Ser Val His Glu Gly Arg Val
225 230 235 240
Glu Leu Tyr His Ala Gly Gln Trp Gly Thr Val Cys Asp Asp Gln Trp
245 250 255
Asp Asp Ala Asp Ala Glu Val Ile Cys Arg Gln Leu Gly Leu Ser Gly
260 265 270
Ile Ala Lys Ala Trp His Gln Ala Tyr Phe Gly Glu Gly Ser Gly Pro
275 280 285
Val Met Leu Asp Glu Val Arg Cys Thr Gly Asn Glu Leu Ser Ile Glu
290 295 300
Gln Cys Pro Lys Ser Ser Trp Gly Glu His Asn Cys Gly His Lys Glu
305 310 315 320
Asp Ala Gly Val Ser Cys Thr Pro Leu Thr Asp Gly Val Ile Arg Leu
325 330 335
Ala Gly Gly Lys Gly Ser His Glu Gly Arg Leu Glu Val Tyr Tyr Arg
340 345 350
Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Thr Glu Leu Asn Thr
355 360 365
Tyr Val Val Cys Arg Gln Leu Gly Phe Lys Tyr Gly Lys Gln Ala Ser
370 375 380
Ala Asn His Phe Glu Glu Ser Thr Gly Pro Ile Trp Leu Asp Asp Val
385 390 395 400
Ser Cys Ser Gly Lys Glu Thr Arg Phe Leu Gln Cys Ser Arg Arg Gln
405 410 415
Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val Ser Ile Ala Cys
420 425 430
Tyr Pro Gly Gly Glu Gly His Arg Leu Ser Leu Gly Phe Pro Val Arg
435 440 445

Leu Met Asp Gly Glu Asn Lys Lys Glu Gly Arg Val Glu Val Phe Ile
450 455 460
Asn Gly Gln Trp Gly Thr Ile Cys Asp Asp Gly Trp Thr Asp Lys Asp
465 470 475 480
Ala Ala Val Ile Cys Arg Gln Leu Gly Tyr Lys Gly Pro Ala Arg Ala
485 490 495
Arg Thr Met Ala Tyr Phe Gly Glu Gly Lys Gly Pro Ile His Val Asp
500 505 510
Asn Val Lys Cys Thr Gly Asn Glu Arg Ser Leu Ala Asp Cys Ile Lys
515 520 525
Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu Asp Ala Gly Val
530 535 540
Ile Cys Asp Tyr Phe Gly Lys Lys Ala Ser Gly Asn Ser Asn Lys Glu
545 550 555 560
Ser Leu Ser Ser Val Cys Gly Leu Arg Leu Leu His Arg Arg Gln Lys
565 570 575
Arg Ile Ile Gly Gly Lys Asn Ser Leu Arg Gly Gly Trp Pro Trp Gln
580 585 590
Val Ser Leu Arg Leu Lys Ser Ser His Gly Asp Gly Arg Leu Leu Cys
595 600 605
Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr Ala Ala His Cys
610 615 620
Phe Lys Arg Tyr Gly Asn Ser Thr Arg Ser Tyr Ala Val Arg Val Gly
625 630 635 640
Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Glu Ile Gly Val
645 650 655
Gln Gln Ile Val Ile His Arg Glu Tyr Arg Pro Asp Arg Ser Asp Tyr
660 665 670
Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Glu Glu Gln Cys Ala Arg
675 680 685
Phe Ser Ser His Val Leu Pro Ala Cys Leu Pro Leu Trp Arg Glu Arg
690 695 700
Pro Gln Lys Thr Ala Ser Asn Cys Tyr Ile Thr Gly Trp Gly Asp Thr
705 710 715 720
Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala Ile Pro Leu Leu
725 730 735
Pro Lys Arg Phe Cys Glu Glu Arg Tyr Lys Gly Arg Phe Thr Gly Arg
740 745 750

Met Leu Cys Ala Gly Asn Leu His Glu His Lys Arg Val Asp Ser Cys
755 760 765
Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Arg Pro Gly Glu Ser
770 775 780
Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly Cys Gly Val Lys
785 790 795 800
Asp Ser Pro Gly Val Tyr Thr Lys Val Ser Ala Phe Val Pro Trp Ile
805 810 815
Lys Ser Val Thr Lys Leu
820